

**isc Silicon PNP Darlington Power Transistor**

**BDT64F/AF/BF/CF**

**DESCRIPTION**

- Collector Current  $-I_C = -12A$
- High DC Current Gain  $-h_{FE} = 1000(\text{Min}) @ I_C = -5A$
- Complement to Type BDT65F/AF/BF/CF

**APPLICATIONS**

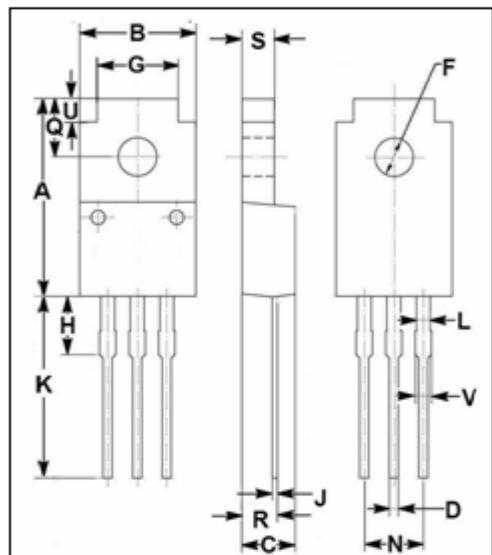
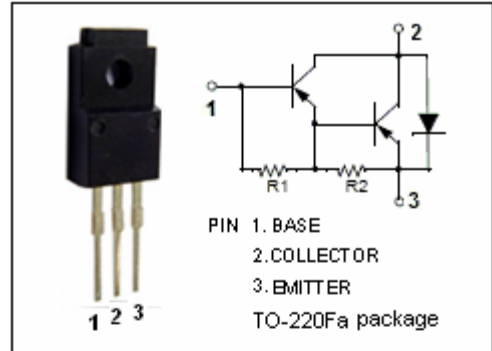
- Designed for audio output stages and general purpose amplifier applications

**ABSOLUTE MAXIMUM RATINGS( $T_a = 25^\circ\text{C}$ )**

SYMBOL	PARAMETER	VALUE	UNIT	
$V_{CER}$	Collector-Emitter Voltage	BDT64F	-60	V
		BDT64AF	-80	
		BDT64BF	-100	
		BDT64CF	-120	
$V_{CEO}$	Collector-Emitter Voltage	BDT64F	-60	V
		BDT64AF	-80	
		BDT64BF	-100	
		BDT64CF	-120	
$V_{EBO}$	Emitter-Base Voltage	-5	V	
$I_C$	Collector Current-Continuous	-12	A	
$I_{CM}$	Collector Current-Peak	-20	A	
$I_B$	Base Current-Continuous	-0.5	A	
$P_C$	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	39	W	
$T_J$	Junction Temperature	150	$^\circ\text{C}$	
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$	

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	5.7	$^\circ\text{C}/\text{W}$



DIM	mm	
	MIN	MAX
A	16.85	17.15
B	9.90	10.10
C	4.35	4.65
D	0.75	0.80
F	3.20	3.40
G	6.90	7.10
H	5.15	5.45
J	0.45	0.75
K	13.35	13.65
L	1.10	1.30
N	4.98	5.18
Q	4.85	5.15
R	2.95	3.25
S	2.70	2.90
U	1.75	2.05
V	1.30	1.50

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## ELECTRICAL CHARACTERISTICS

 $T_C=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	BDT64F	-60			V
		BDT64AF	-80			
		BDT64BF	-100			
		BDT64CF	-120			
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C = -5A; I_B = -20mA$			-2.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C = -10A; I_B = -100mA$			-3.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -5A; V_{CE} = -4V$			-2.5	V
$V_{ECF}$	C-E Diode Forward Voltage	$I_F = -5A$			-2.0	V
$I_{CEO}$	Collector Cutoff Current	$V_{CE} = \frac{1}{2}V_{CE0max}; I_B = 0$			-1	mA
$I_{CBO}$	Collector Cutoff Current	$V_{CB} = V_{CB0max}; I_E = 0$ $V_{CB} = \frac{1}{2}V_{CB0max}; I_E = 0; T_C = 150^\circ\text{C}$			-0.4 -2	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB} = -5V; I_C = 0$			-5	mA
$h_{FE-1}$	DC Current Gain	$I_C = -1A; V_{CE} = -4V$		4000		
$h_{FE-2}$	DC Current Gain	$I_C = -5A; V_{CE} = -4V$	1000			
$h_{FE-3}$	DC Current Gain	$I_C = -12A; V_{CE} = -4V$		800		
$C_{OB}$	Output Capacitance	$I_E = 0; V_{CB} = -10V; f_{test} = 1MHz$		200		pF

## Switching times

$t_{on}$	Turn-On Time	$I_C = -5A; I_{B1} = -I_{B2} = -20mA;$ $V_{CC} = -30V$		0.5	2	$\mu s$
$t_{off}$	Turn-Off Time			2.5	5	$\mu s$